



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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MEMORANDUM

June 25, 2002

To: Dave Mabe  
Rick Huddleston  
Paul Wakagawa  
Regional Administrators and Engineering Managers  
All DEQ Plan and Specification Review Personnel  
The Public at Large

From: Mark Mason

Subject: **Addressing the need, importance and requirements for Engineering Reports and Facilities Plans for Wastewater Projects:**

Section 402 of Idaho's *Water Quality Standards and Wastewater Treatment Requirements (IDAPA 58.01.02)* requires that *The Recommended Standards for Wastewater Facilities* (Ten States Standards) and all applicable laws, rules, regulations and standards be used as guides in the review of plans and specifications for waste treatment facilities. Treatment system is defined in Section 003 of the same *IDAPA 58.01.02* as any physical facility or land area for the purpose of collecting, treating, neutralizing or stabilizing pollutants...

An engineering report / facility plan is a document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. A facility plan is an engineering report that includes the additional elements required by the National Environmental Policy Act (NEPA), other federal statutes, and planning requirements for the State Revolving Fund (SRF) Loan Program. An Engineering Report must be sufficiently complete so that plans and specifications can be developed from it without substantial changes.

*The Recommended Standards for Wastewater Facilities* (Ten States Standards) state that "Engineering Reports must be completed for minor collection system, pump station, and interceptor projects. Comprehensive Facility Plans must be completed or have been completed for projects involving new, expanded, upgraded, or rehabilitated wastewater treatment facilities and major collection, interceptor sewer, and pump station projects." Facilities Plans should be updated on a regular basis (10 – 15 years). When facilities reach 85% of hydraulic capacity, new efforts toward planning, design and construction

should begin. Failure to do so may result in building moratoriums when capacity is actually reached.

*The Recommended Standards for Wastewater Facilities* (Ten States Standards) also state what information the Engineering Reports and Facility Plans shall contain, including alternative selection and environmental review.

Three parts to these plans include collection, treatment and ultimate disposition. The Engineering Reports and Facility Plans can address any or all of these parts as the project dictates.

Guidance, both past and present, discusses to the need to provide an Engineering Report or Facilities Plan that addresses the advantages and disadvantages of different types of wastewater collection. The preferred method for operations and maintenance purposes is gravity collection. In some instances (for example shallow rock formations or high ground water), gravity system costs can cause a developer to look at other alternatives. Examples for alternatives include vacuum or pressure systems. The obvious advantage of vacuum over pressure is the evacuation of the sewer mains and therefore less opportunity for the wastewater going septic prior to treatment. Vacuum systems also (in cold climates) much reduce freezing problems, but do have some topographic limitations on lift capability.

All Projects involving the use of a private or public wastewater treatment plant are therefore required to submit a complete Facilities Plan for all portions of the project, including the collection system. Further guidance from DEQ delineates what issues need to be resolved as a part of plan and specification or Wastewater Land Application Program (WLAP) permit review. Each project has various differences when viewed as a whole. Just because one component of an overall system was approved for a previous development does mean that it will automatically be approved for every development. The Facilities Plan will, in part, address the overall preferred system and how each component interacts within that system.

Given issues of reasonable accessibility to municipal collection and treatment systems, surface water discharge limitations and associated TMDL issues, increasing land development, and more sophisticated private wastewater treatment plants and operators, decentralization of wastewater facilities is becoming more prevalent. Developments may require their own NPDES permit, utilize a WLAP permit, or use a Subsurface Sewage Treatment and Distribution permit. The Facilities Plan or Engineering Report needs to address how each of these possibilities compares with hooking up to an existing system, and how each treatment and disposal system compares with each other. The Facilities Plan should also discuss the permitting process and the need for concurrent permit and plan and specification review.

A relevant example of how treatment and disposal options interact is the case of the storage of treated effluent onsite (and the possible mixing of the effluent with other waters) prior to discharge or irrigation. It must be looked at in the Facilities Plan as a

component of the overall system. It may be that additional treatment (filtration and disinfection) will be required prior to discharge or irrigation, due to secondary contamination during storage from various sources. This additional treatment effort may dictate the final reuse alternative.

The Facilities Plan or Engineering Report also needs to address the various end disposal options. If that includes land application of wastewater, the report shall show the irrigation alternatives in relation to the type of treatment / access / reuse desired and a discussion of the WLAP permit application progress. Whether the permit involved is an NPDES, a WLAP, or a subsurface permit, the permit review and the plan and specification review must be done concurrently in order to minimize conflicts.

The Facilities Plan or Engineering Report is to be prepared and stamped by a professional engineer, registered in Idaho.

With all of the above said, it is still within the authority of the reviewing engineer to informally waive certain aspects of these reports for simple, straightforward projects such as gravity collection lines hooking into existing systems. The “will serve” letters from the collection and treatment entities, the design checklists used by DEQ, and fully-descriptive transmittal letters, all assist the reviewing engineer in making a determination for waiver.

Similar engineering report requirements pertain to drinking water projects.